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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,847	09/06/2000	Yasuhiro Ishii	1560-0348P	9788

7590 03/12/2003

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EXAMINER

STEFANON, JUSTIN

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/655,847

Applicant(s)

ISHII ET AL.

Examiner

Justin Stefanon

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 January 2003 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 2, and 7 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by US Patent No 6,044,723 to Eda et al.

Eda et al. disclose, in the abstract, an electric power assisting steering apparatus comprising a motor mounted to generate auxiliary steering power, an output shaft, a bearing, a worm gear mechanism, and a biasing member, i.e. an elastic body, provided between at least one of the shaft and the housing and the bearing, so that when a tooth surface of the worm and that of the worm wheel are brought into contact with each other, the rotating shaft is moved in at least one of the axial direction and the radial direction relative to the housing by deforming the elastic body. The biasing member of Eda biases the the shaft via a bearing 8a, and the bearing is cylindrical, thus is received in a concave member.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No 4,827,790 to Bisiach in view of Eda et al.

In reference to claims 7 and 1, Bisiach discloses a worm shaft 18, driven by an electric motor 54, and a worm wheel 16 with biasing member 55 to bias the worm shaft toward the worm wheel in a deflective direction of the worm shaft. However, the worm of Bisiach is not mounted to a steering shaft. Eda et al. teach the use of a motor-driven worm shaft to drive a worm wheel mounted to a steering shaft. It would have been obvious to one skilled in the art at the time the invention was made to utilize the worm

and wheel of Bisiach with the steering shaft of Eda et al. in a power steering system, as Eda et al. teaches the worm and wheel as a means of providing power-assisted steering.

In reference to claims 2-4, Bisiach further discloses an interlocking member 52 between the worm shaft and the output shaft of the motor. The biasing member of Bisiach includes a screw body 60 fastened in a tapped hole of the housing of the worm shaft, as seen in Figure 4. A spring body 66 is interposed between the screw body and the worm shaft. The screw body is in contact with a bearing fitted to the worm shaft via box 30. The shaft is biased via a cylindrical bearing 31, which is accepted by a concave member.

Response to Arguments

6. Applicant's arguments filed 21 January 2003 have been fully considered but they are not persuasive. Applicant argues that neither reference discloses biasing via a bearing accepted by a concave member. However, both references disclose biasing the shaft via a cylindrical bearing. The bearings are mounted in seats in the housings which are cylindrical and therefore concave.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Stefanon whose telephone number is 703-305-1945. The examiner can normally be reached on Monday - Thursday 6 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Bucci can be reached on 703-308-3668. The fax phone numbers

Application/Control Number: 09/655,847


Page 5

Art Unit: 3682

for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

js
March 10, 2003


DAVID A. BUZZI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600